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Redescription of *Isotomiella alulu* and *I. delamarei* (Collembola: Isotomidae) with notes on the systematics of the genus and new records from the Neotropics

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Abstract

Isotomiella alulu Christiansen & Bellinger, 1992 and *I. delamarei* Barra, 1968 are redescribed after the study of type material and comparison with related species in differential diagnosis. The systematic position of *I. delamarei* is specified with discussions of the systematics of the genus based on sensillar patterns of the species representatives. Two phyletic lineages are outlined within the genus represented by *I. minor* and *I. nummulifer* species groups. Diagnostic tables for *Isotomiella* species based on sensillar patterns and morphological characters of furcula are involved and a dichotomous identification key to the genus is provided. Notes on the systematics and distribution of *Isotomiella* species are added. New localities for *I. granulata*, *I. nummulifer* and *I. symetrimucronata* from the Neotropics (Mexico, Nicaragua) are given , and records of *I. minor* are confirmed for Northern and Central Mexico (Nearctic region).

Key words: *Isotomiella*, redescriptions, systematics, geographic distribution, identification key, new records

Introduction

The genus *Isotomiella* Bagnall, 1939 may be easily recognized within the family Isotomidae by evident morphological characters, e. g. lack of pigment, eyes and postantennal organ. The antennal segment IV bears 6 ovoid sensilla and last 2 abdominal segments are fused. Stach (1947) considered *Isotomiella minor* (Schäffer, 1896) as very easy to distinguish and its distribution to be very wide in Europe with records from other continents (U.S.A., Hawaii, Japan, New Zealand). However, most of these records should be reviewed, since the characters used for species identification were the same as the generic attributes.

Several single descriptions appeared for new species, e. g. from Africa (Barra 1968), Asia (Rusek 1981), South America (Najt & Thibaud 1987) and Europe (Deharveng 1989). For the taxonomy of the genus papers by Deharveng & Oliveira (1990) and Oliveira & Deharveng (1990) were the most important. The authors provided new taxonomic characters and described valuable number of new species from the Amazonia. Subsequently, numerous new species have been added from Seychelles (Deharveng & Fjellberg 1993), Thailand (Bedos & Deharveng 1994), Indonesia (Deharveng & Suhardjono 1994), Melanesia (Yoshii 1995), Africa (Barra 1997, 2006), Poland (Sterzyńska & Kapruś 2001) and Brazil (Mendonça & Fernandes 2003a, b; Mendonça & Abrantes 2007).

According to the present data, the distribution of *Isotomiella minor* is limited to the Holarctic realm (Potapov 2001). The highest diversity of the genus is concentrated to the tropical zone where majority of known species (38 species of the total 46) are found. Thus, it is necessary to verify the older records of *I. minor* and *I. paraminor* from Central and South America (see Mari Mutt & Bellinger 1990 and Palacios-Vargas 1997).

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